

Abstract

An optical transmission system includes a first transmitter unit and a first receiver unit. A first optical transmission path interconnects the first transmitter unit and the first receiver unit. The first optical transmission path is defined by at least three transmission spans. The first optical transmission path has a periodic dispersion map with a first periodic component comprising a fixed portion and an adjustable portion, and a second periodic component greater in length than the first periodic component. The fixed portion of the first periodic component of the periodic dispersion map is provided by the respective transmission spans. A plurality of optical repeaters each optically couple adjacent ones of the transmission spans to one another. A first plurality of adjustable dispersion trimming element are each located in one of the optical repeaters and optically couples one of the transmission spans to an optical amplifier located in the optical repeater. The first adjustable dispersion trimming elements each have an adjustable path average dispersion that provides the adjustable portion of the first periodic component. The adjustable path average dispersion is selected such that the fixed portion of the first periodic component of the periodic dispersion map plus the adjustable component of the dispersion map associated therewith has a desired value.